



WHY SCHOOL BUSES INSTEAD OF VANS?

IN ONE WORD:

SAFETY!

**Read the attached excerpts from
the National Transportation Safety
Board's "Putting Children First" to
see why this issue is so important!**

School Transportation for Children

The Problem

In 1997, the Safety Board investigated a school bus accident near Monticello, Minnesota. The school bus was traveling about 45 miles per hour through an intersection when it was struck by a dump truck with a semitrailer, traveling about 50 mph. The dump truck driver ran a stop sign, skidded into the intersection, and was struck by the front of the school bus. A second impact occurred when the right front corner of the semitrailer struck the left side of the school bus. A third impact occurred when the semitrailer slapped the side of the school bus as the bus was rotating clockwise. The school bus was occupied by an adult driver and 13 passengers, ages 6 to 11. The truck driver and three bus passengers seated in the left rear of the bus were fatally injured. One bus passenger sustained critical injuries, two sustained severe injuries, and three sustained serious injuries. The school bus driver and one passenger sustained moderate injuries, and three passengers sustained minor injuries.

Current large school bus occupant protection regulations are based on a concept called compartmentalization: the seats are strong, closely spaced together, high backed, well padded, and designed to absorb energy during a crash. This concept evolved from both crash testing research and Federal rulemaking by NHTSA.

This accident and five others investigated for the Safety Board's 1999 *Bus Crashworthiness Special Investigation Report* demonstrated that passenger fatalities and serious injuries may occur away from the area of initial vehicle impact. This represents a departure from the circumstances in previous school bus accidents investigated by the Safety Board in which the fatalities and serious injuries routinely occurred in the initial impact areas.

Lessons Learned

During the investigation of the six accidents mentioned above, the Safety Board learned that although compartmentalization is an effective means of protecting children in school bus accidents, current compartmentalization is incomplete. It does not protect passengers during lateral (side) impacts with vehicles of large mass or in rollovers, because in such accidents, passengers do not always remain completely within the seating compartment.

The school bus seat in use today is a 23-year-old design. The Safety Board believes that installing obsolete technology (lap belts) in school bus seats that were never designed for them is the wrong solution to improve school bus occupant protection. The right solution, and the one that Board has recommended, is to develop a seating system that restrains passengers within the seating compartment throughout the accident sequence that accounts for frontal impact collisions, side impact collisions, rear impact collisions, and rollovers.

Safety Improvements

Actions taken subsequent to the Board's safety recommendations include the following:

- NHTSA has performed school bus crash tests as a result of the Safety Board's school bus accident investigations. NHTSA is conducting a research program to evaluate the next generation of school bus seating systems.



Passenger Vans Used for School Activities

The Problem

In 1998, the Safety Board investigated an accident in East Dublin, Georgia, in which a 15-passenger van, occupied by a driver, five children ages 4 and 5, and an adult aide, collided with another vehicle. The van was transporting children from their homes to a Head Start Program center. When the van reached an intersection of a major road, its driver drove through a stop sign, entered the intersection, and hit a pickup truck operated by a 17-year-old driver. A 4-year-old child was ejected from the van and died. The van's driver was seriously injured, and the other van occupants received minor injuries. The pickup driver was killed. Eight of the van's 10 windows were shattered in the accident. If the occupants had been riding in a regular school bus with federally mandated crash protection, the van would probably have sustained less damage, resulting in fewer and less severe injuries to the passengers.

Lessons Learned

These vans are referred to as non-conforming buses because they do not have the same requirements for occupant protection, joint strength of body panels, or roof rollover protection that ensure passengers in "yellow" school buses that meet Federal standards and have a higher degree of passenger safety. Further, these vehicles do not have compartmentalized interiors. A 1999 Safety Board special investigation on non-conforming buses showed that some school districts, daycare centers, and contract transportation companies are using vans, tour buses, and other specialty buses for student transportation and therefore do not provide the same level of protection as standard-size school buses.



Based on four accidents investigated for the 1999 non-conforming bus report, the Safety Board asked the States and the District of Columbia to require all vehicles transporting 10 or more children to and from school and school-related activities to use vehicles that meet school bus structural standards.

Safety Improvements

Actions taken subsequent to the Board's safety recommendations include the following:

- Several affordable vans have been designed to meet the more protective Federal standards.
- Insurance companies have begun to recognize the safety advantages of school buses over vans, and some will no longer insure operators that use vans to transport children.
- South Carolina enacted legislation in 2000 to phase out the use of non-conforming buses by private schools and others.

Federal Motor Vehicle Safety Standards for School Buses

FMVSS 220

Establishes requirements for the school bus body structure in rollover accidents.

FMVSS 111

Provides safety requirements for the rear view and cross view visibility.

FMVSS 131

Specifies requirements for devices installed on school buses to improve safety in the vicinity of stopped school buses.

FMVSS 221

Regulates the strength of body panel joints in school buses.

FMVSS 222

Establishes occupant protection requirements for school bus passenger seating and barriers.

